

Two New Species of the Genus *Sinodrepanus* (Coleoptera, Scarabaeidae, Oniticellini) from China and Thailand

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Abstract Two new species of the genus *Sinodrepanus* are described from Guizhou, China and Thailand under the names of *S. uenoi* sp. nov. and *S. thailandicus* sp. nov., respectively. *Sinodrepanus uenoi* sp. nov. resembles *S. similis*, but can be distinguished from the latter by having the following characteristics: in the male, the elytron with the 6th interstria distinctly widened in the posterior portion; in the female, the 6th interstria of elytron almost of the same width as the 4th one in the posterior portion. *Sinodrepanus thailandicus* sp. nov. resembles *S. besucheti*, but can be distinguished from the latter by having the following characteristics: the median longitudinal ridges on the pronotum widely separated from each other and not strongly elevated; in the male, the clypeal margin with the antero-median portion strongly produced and directed upwards at the apical end. In addition, *S. similis* is recorded from China for the first time.

The genus *Sinodrepanus* was erected by SIMONIS (1985) for *S. falsus* (SHARP) as the type species. SIMONIS (1985) transferred the three species, *Oniticellus falsus* SHARP, *O. exsul* SHARP and *Drepanocerus rex* BOUCOMONT, to *Sinodrepanus* and described the three species, *S. besucheti* and *S. rosannae* from Fujian, China and *S. similis* from Thailand. Later, KABAKOV and NAPOLOV (1999) regarded *S. exsul* as a junior synonym of *S. falsus*.

When we examined specimens of *Sinodrepanus* in our hands, we found two species that appeared to be distinct from any known species of the genus. After we compared the two forms with known members of this genus based on specimens or lit-

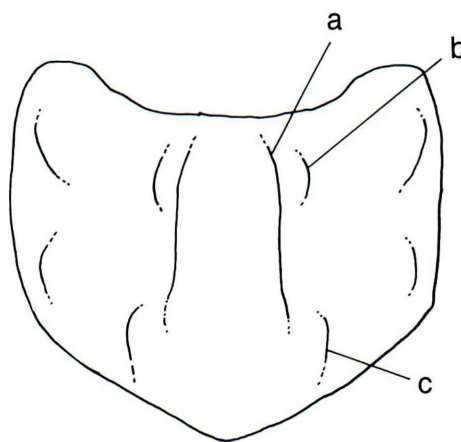


Fig. 1. A schematic presentation of the pronotum of *Sinodrepanus*; a, median longitudinal ridge; b, paramedian anterior short ridge; c, paramedian basal short ridge.

erature, we have concluded that the two forms are new to science. Thus, we are going to describe two new species of *Sinodrepanus* from Guizhou, China and Thailand. In addition, we shall record *S. similis* from China for the first time.

In the following descriptions, we use the terminology for the ridges on the pronotum as shown in Fig. 1.

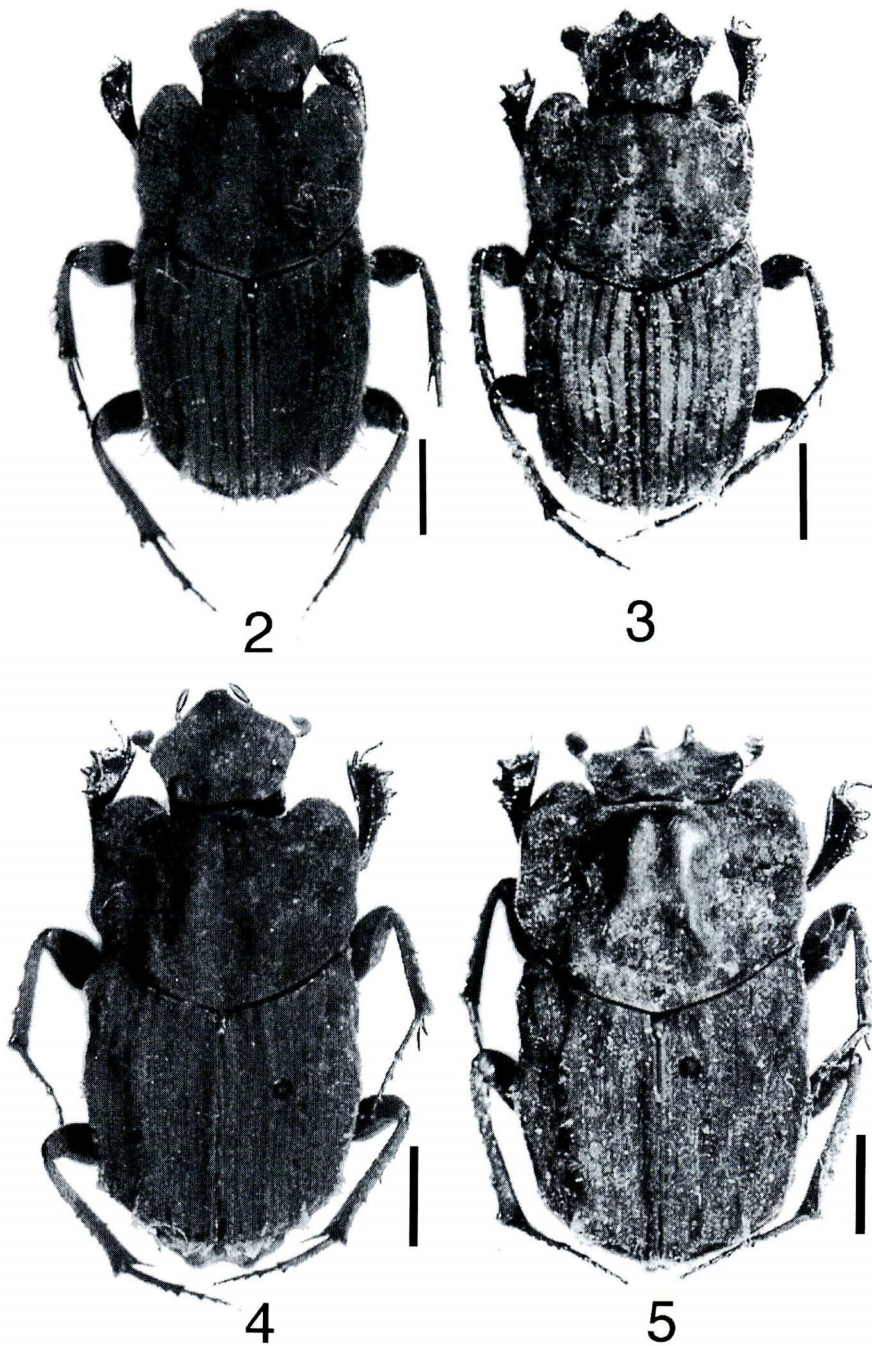
***Sinodrepanus uenoi* sp. nov.**

(Figs. 2, 3, 6, 7, 10, 11, 14–17)

Length: 10.6–11.7 mm; width: 5.1–5.9 mm (n=3).

Body medium-sized, oblong-oval, strongly flattened in posterior portion of dorsal side; dorsal and ventral sides very thickly covered with earthy scale-like hairs except for glabrous scutellum, metacoxa, and dorsal side of protibia; the scale-like hairs changing into long to very long bristles forming tufts in the following dorsal portions: longitudinal carina of posterior portion of head, dorsal ridges and elevations on pronotum, 1st, 5th and 7th interstriae of elytron along whole length, 2nd in posterior portion, 3rd in anterior and posterior portions, 8th in anterior portion, and pygidium in basal and middle parts. Colour brown though the ground colour is dark brown to blackish-brown, partly with slight metallic lustre; scutellum, metacoxa, and dorsal side of protibia tinged with distinct greenish to purplish luster.

Male. Head a little transverse, slightly depressed behind anterior margin at the middle; clypeal margin widely subtrapezoidal in outline, truncated at the middle, weakly sinuate on either side, with marginal line reflexed and finely bordered; median truncation of clypeus a little upturned on either side; clypeo-genal suture fine, not carinate in front, gradually becoming raised towards vertex and changing into obtuse and longitudinal carina near posterior margin; clypeo-frontal suture effaced; gena strongly

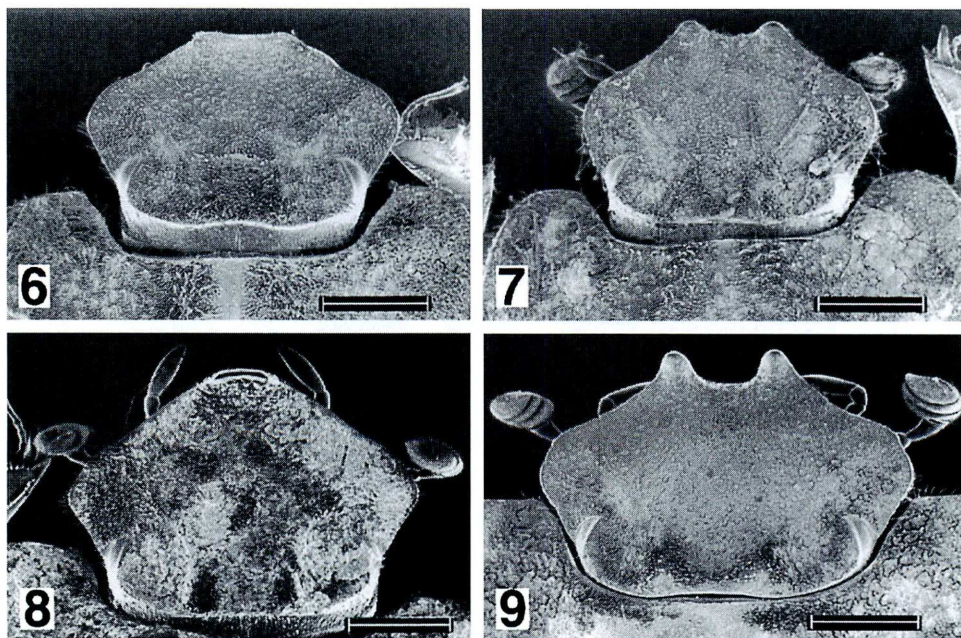


Figs. 2-5. Habitus of *Sinodrepanus* spp., scale 2 mm. — 2, Male (holotype) of *S. uenoi* sp. nov.; 3, female (paratype) of *S. uenoi* sp. nov.; 4, male (holotype) of *S. thailandicus* sp. nov.; 5, female (paratype) of *S. thailandicus* sp. nov.

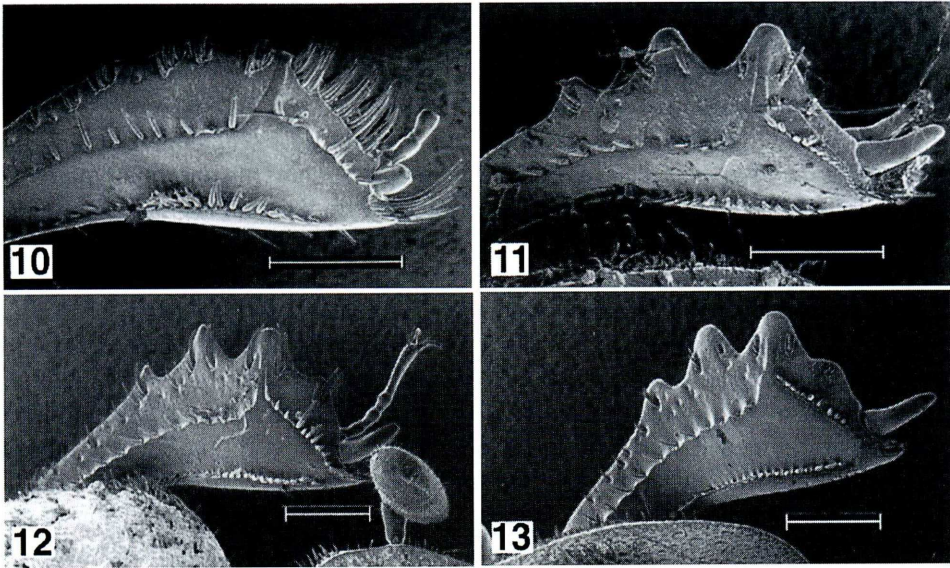
produced laterad and a little reflexed in front, with margin obtusely angulate a little prior to the middle, finely bordered; posterior margin clearly edged; surface very thickly covered with setiferous punctures; the punctures shallowly annular, coarse, a little uneven.

Pronotum depressed and distinctly uneven on dorsal side, about 1.36 times as wide as long ($n=1$); anterior margin emarginate and finely bordered; lateral margin slightly sinuate at the middle and behind, gently rounded towards apex, and finely bordered throughout; anterior angle subtruncated, with inner corner obtusely angulate and clearly more produced forwards than the rounded outer one; posterior angle rounded; disc rather depressed, with five pairs of obtuse ridges or elevations; the median longitudinal ridge not so strongly elevated, not reaching basal margin, almost straight in anterior half, widened posteriad; paramedian anterior short ridge distinct and well developed; paramedian basal short ridge longitudinal and not so strongly elevated; surface densely covered with earthy scale-like hairs, with punctures coarse, shallow, and clearly elongate in postero-median portion. Prepisternum slightly visible along anterior portion of lateral margin of pronotum in dorsal view. Scutellum small, lingulate, impunctate and shining.

Elytra distinctly hollowed dorsally, about 1.11 times as wide as long ($n=1$); disc strongly uneven, each with three small excavations, the basal one located on 5th to 7th



Figs. 6–9. Head of *Sinodrepanus* spp., scale 1 mm. — 6, Male (holotype) of *S. uenoi* sp. nov.; 7, female (paratype) of *S. uenoi* sp. nov.; 8, male (holotype) of *S. thailandicus* sp. nov.; 9, female (paratype) of *S. thailandicus* sp. nov.



Figs. 10–13. Left protibia of *Sinodrepanus* spp., scale 1 mm. — 10, Male (holotype) of *S. uenoi* sp. nov.; 11, female (paratype) of *S. uenoi* sp. nov.; 12, male (holotype) of *S. thailandicus* sp. nov.; 13, female (paratype) of *S. thailandicus* sp. nov.

interstriae, the median lateral one on 6th to 7th, the lateral one on 7th to 8th, of these the last one is strongly depressed laterally; striae finely and clearly impressed except for the wide 1st one, with strial punctures rather sparse though those on the 1st fairly dense; both sides of each stria finely ridged throughout; 1st interstria convex near base, gradually and weakly costate towards apex; 2nd to 5th almost flat or depressed; 6th distinctly widened in posterior portion; 6th to 8th uneven, densely covered with earthy scale-like hairs.

Pygidium distinctly longitudinal, rather shallowly hollowed at base, longitudinally carinate along midline in basal two-fifths; integument almost covered with earthy scale-like hairs, with tuft of long hairs along the median carina, with a pair of long hair bunches a little prior to the middle. Protibia strongly dilated apicad, slightly curved upwards a little prior to the middle, with three obtuse lateral teeth (they may have become obtuse due to the abrasion); anterior margin of protibia obliquely truncated. Meso- and metatibiae slender; the latter almost of the same length as metatarsus; basal segment of metatarsus 1.78 times as long as terminal spur.

Aedeagus rather slender, with phallobase about 2.5 mm in length ($n=1$). Paramere also slender in lateral view, about 1.2 mm in length ($n=1$); apical tooth strongly projected ventrad; lateral tooth fairly slender, a little separated from the apical tooth. Copulatory lamella of internal sac composed of two major branches, the larger one suboval in outline, the other one curved; raspula of internal sac with very dense short setae.

Female. Head with clypeal margin strongly produced as a pair of upturned triangular teeth at the middle. Pygidium more strongly hollowed than in the male; a pair of long hair bunches located near apex. Protibia more strongly dilated apicad, with three teeth stronger; terminal spur sharp, clearly decurved.

Type series. Holotype: ♂, Yuwunshan, 1,600 m alt., Guizhou, China, 1998. Paratypes: 2 ♀♀, the same data as for the holotype. At present, the holotype is deposited in the collection of the National Science Museum (Natural History), Tokyo.

Distribution. China (Guizhou).

Etymology. The present new species is named in honor of Dr. S.-I. UENO, who has been giving us invaluable advice and encouragement.

Notes. The present new species is very similar in having three outer teeth on the protibia to *Sinodrepanus similis* SIMONIS, 1985, from Thailand, but is distinguished from the latter by the following points: 1) in the male, the elytron with the 6th interstria distinctly widened in the posterior portion, whereas in *S. similis*, it is narrow throughout; 2) in the female, the 6th interstria of elytron almost of the same width as the 4th one in the posterior portion, whereas in *S. similis*, the former is obviously narrower than the latter; 3) in the male, the head with the clypeal margin not distinctly bidentate, whereas in *S. similis*, the head with the clypeal margin bidentate; 4) in the male, the anterior angle of pronotum with the inner corner a little produced forwards than the outer one, whereas in *S. similis*, the inner corner of anterior angle is not more produced forwards than the outer one; 5) in the male genitalia, the paramere with the apical tooth strongly projected ventrad and the lateral tooth slender in lateral view, whereas in *S. similis*, the former is less projected ventrad and the latter is clearly robust in lateral view; 6) in the male, the internal sac of aedeagus with the copulatory lamella different in shape from that of *S. similis* (Figs. 16, 17; see also SIMONIS, 1985).

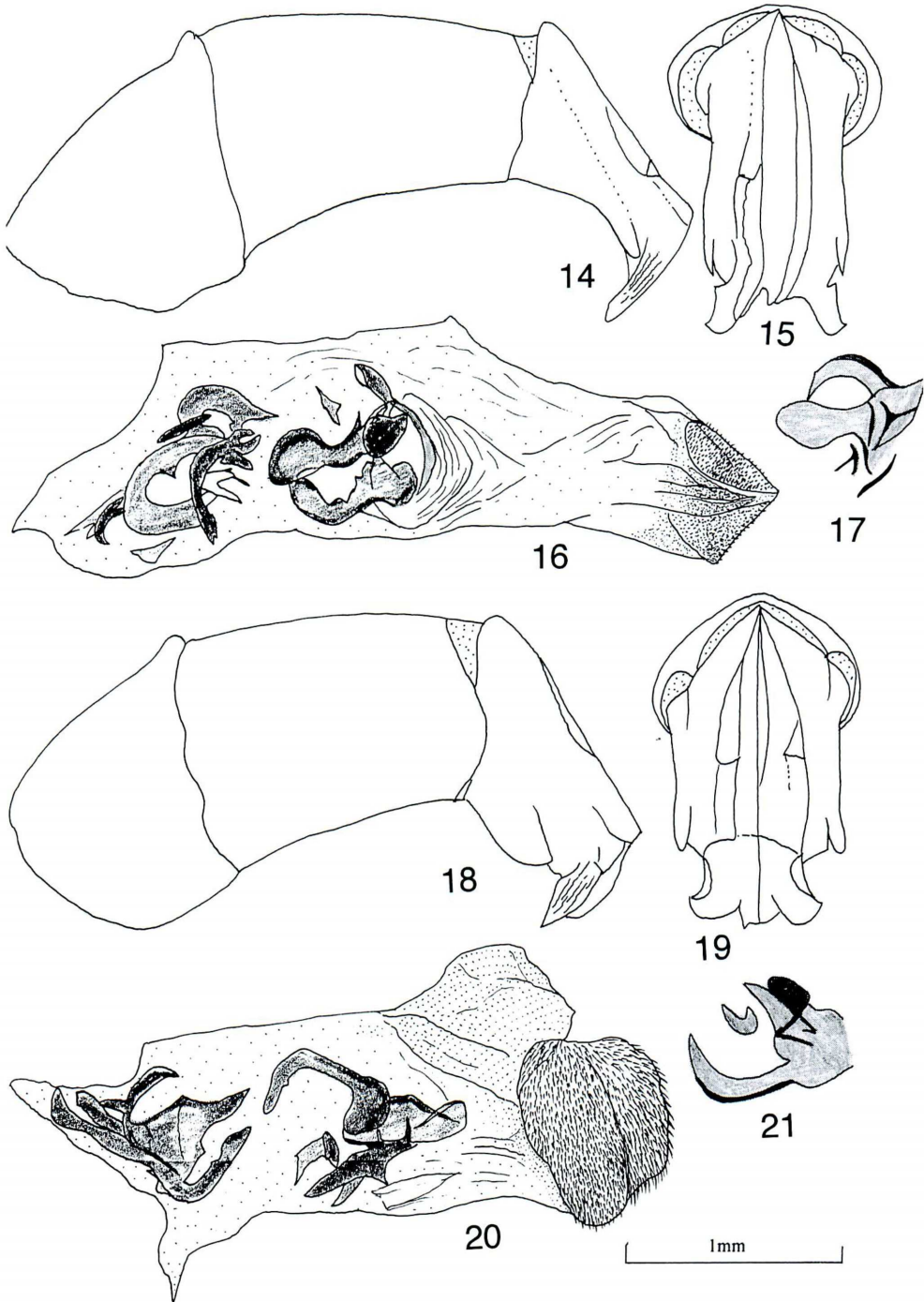
Sinodrepanus thailandicus sp. nov.

(Figs. 4, 5, 8, 9, 12, 13, 18–21)

Length: 10.5–12.7 mm; width: 5.5–6.5 mm (n=14).

Body large-sized, oblong-oval to oval, strongly flattened in posterior portion of dorsal side; dorsal and ventral sides very thickly covered with earthy scale-like hairs except for glabrous scutellum, metacoxa, dorsal side of protibia; the scale-like hairs changing into long to very long bristles forming tufts in the following dorsal portions: longitudinal carina of posterior portion of head; ridges and elevations on pronotum; 1st, 5th and 7th interstriae of elytron almost along whole length; 2nd in posterior portion; 3rd in anterior and posterior portions; 8th in anterior portion; pygidium in basal and middle parts. Colour brown though the ground colour is dark brown to blackish-

Figs. 14–21. Male genitalia of *Sinodrepanus* spp.; 14, 18, male genitalia, lateral view; 15, 19, ditto, dorsal view; 16, 20, internal sac, lateral view; 17, 21, copulatory lamella of internal sac in view from the opposite side. — 14–17. *Sinodrepanus uenoi* sp. nov. — 18–21. *S. thailandicus* sp. nov.



brown, partially with a weak metallic luster; scutellum, metacoxa, and dorsal side of protibia tinged with distinct greenish to purplish luster.

Male. Head less transverse than in the preceding species, strongly depressed behind anterior margin at the middle; clypeal margin widely subtriangular in outline, with antero-median portion strongly produced as an upward process which is truncated at the apex; clypeo-genal suture fine, not carinate in front, gradually becoming raised towards vertex and changing into obtuse and longitudinal carina near posterior margin; clypeo-frontal suture effaced; gena strongly produced laterad, clearly reflexed in front, with margin obtusely angulate a little prior to the middle, finely bordered; posterior margin clearly edged; surface very thickly covered with setiferous punctures; the punctures very dense and uneven.

Pronotum depressed and strongly uneven on dorsal side, about 1.38 times as wide as long ($n=1$); anterior margin bisinuate and finely bordered; lateral margin slightly sinuate at the middle and behind, gently convex and rounded in anterior portion, finely bordered throughout; anterior angle subtruncated, with inner corner angulate and not clearly more produced forwards than the outer one; posterior angle rounded; disc rather depressed though distinctly uneven, with five pairs of obtuse ridges or elevations; the median longitudinal ridge strongly elevated, almost straight in anterior half, widened posteriad, not reaching basal margin; the paramedian anterior short ridge distinct and well developed; the paramedian basal short ridge longitudinal and strongly elevated; surface densely covered with earthy scale-like hairs, with punctures coarse, shallow, and clearly elongate in postero-median portion. Prepisternum not so clearly visible along anterior portion of lateral margin of pronotum in dorsal view. Scutellum small, elongated lingulate, impunctate and shining.

Elytra distinctly hollowed dorsally, about 1.18 times as wide as long ($n=1$); disc strongly uneven, each with three small excavations, the basal one located on 5th to 7th interstriae, the median lateral one on 6th to 7th, the lateral one on 7th to 8th, of these the last one is strongly depressed laterally; striae finely and clearly impressed except for the wide 1st one, with stria punctures rather sparse though those on the 1st are fairly dense; both sides of each stria finely ridged throughout; 1st stria strongly costate along whole length; 2nd to 5th almost flat or depressed; 6th to 8th uneven, densely covered with earthy scale-like hairs.

Pygidium markedly longitudinal, clearly hollowed at base, longitudinally carinate along midline in basal fifth; integument almost covered with earthy scale-like hairs, with tuft of long hairs along the median carina, with a pair of long hair bunches a little prior to the middle. Protibia strongly dilated apicad, slightly curved upwards a little prior to the middle, with four obtuse lateral teeth; anterior margin of protibia truncated; terminal spur decurved, with apex not so sharp. Meso- and metatibiae slender; the latter slightly longer than metatarsus; basal segment of metatarsus 1.75 times as long as the terminal spur.

Aedeagus robust, with phallobase about 2.3 mm in length ($n=1$). Paramere also robust, about 1.4 mm in length ($n=1$); apical tooth well produced ventrad and pointed

in lateral view; lateral tooth broad in lateral view, clearly separated from apical tooth. Copulatory lamella of internal sac composed of several elongate branches, the longer one curved, the others short; raspula of internal sac with dense setae.

Female. Head with clypeal margin strongly produced at the middle as a pair of triangular teeth pointed upwards. Pygidium more strongly hollowed than in the male; a pair of long hair bunches placed near apex. Protibia more strongly dilated apicad, with four teeth; terminal spur clearly decurved, with apex sharp.

Type series. Holotype: ♂, Doi Inthanon, Chiang Mai Prov., Thailand, 1–X–1988, Y. MANIT leg. Paratypes: 1 ♀: the same locality as for the holotype, 15–IX–1989, K. MASUMOTO leg.; 1 ♂, ditto, 23–V–1989, K. MASUMOTO leg.; 1 ♀, Doi Inthanon, 12–X–1989, Y. MANIT leg.; 1 ♂, 1 ♀, Doi Inthanon, 15–IV–1991, Y. MANIT leg.; 1 ♂, 1 ♀, ditto, 4–IV–1995, K. MASUMOTO leg.; 2 ♂, 2 ♀, Chiang Mai, 10–V–1989; 1 ♂, 1 ♀, Doi Inthanon, 24–VIII–2004, K. MASUMOTO leg. The holotype is deposited in the collection of the National Science Museum (Natural History), Tokyo.

Distribution. Thailand.

Notes. The present new species appears to be closely related to *Sinodrepanus besucheti* SIMONIS, 1985, but is distinguished from the latter by the following points: 1) the body clearly larger; 2) the pronotum with the median longitudinal ridges widely separated from each other and not strongly elevated, whereas in *S. besucheti*, they are narrowly separated and strongly elevated; 3) in the male, the clypeal margin with the antero-median portion strongly produced as a process directed upwards, whereas in *S. besucheti*, it is truncated and upturned in anterior margin; 4) in the female, the clypeal margin with a pair of median teeth strong and narrowly separated, whereas in *S. besucheti*, they are weak and more widely separated; 5) in the male genitalia, the paramere with the apical tooth strongly pointed and the lateral tooth very close to the apical tooth in lateral view, whereas in *S. besucheti*, the former is not distinctly pointed and the latter is widely separated from the apical tooth in lateral view; 6) in the male genitalia, the copulatory lamella of internal sac is quite different in shape from that of *S. besucheti* (Figs. 20, 21; see also SIMONIS, 1985).

Sinodrepanus similis SIMONIS

Sinodrepanus similis SIMONIS, 1985, Revue suisse Zool., **92**, p. 102.

Specimens examined. 4 ♂♂, 3 ♀♀, Guizhou, China, 1998.

Distribution. Thailand, China (Guizhou) (new record).

Specimens compared. *Sinodrepanus besucheti* SIMONIS: ♂ (holotype), Kuatun, Fukien, China, 11–5–46, Tschung SEN leg. *S. falsus* (SHARP): 1 ♂, 1 ♀, Pak Chong, Thailand. *S. rosannae* SIMONIS: ♂ (holotype), Chine, 25–IX–46, Kuatun, Fukien, Tschung SEN leg.

Acknowledgments

We thank Dr. Giulio CUCCODORO for giving us the opportunity to examine the type specimens in the collection of the Muséum d'Histoire naturelle, Genève. This study was supported in part by a Grant-in-Aid from the Japan Society for the Promotion of Science (No. 14405013).

要 約

越智輝雄・近 雅博・益本仁雄：中国とタイからの *Sinodrepanus* 属の2新種。—— *Sinodrepanus* 属の2新種を中国、貴州省とタイから記載し、それぞれ、*S. uenoi* sp. nov. と *S. thailandicus* sp. nov. と名付けた。*S. uenoi* sp. nov. は *S. similis* と似ているが、雄の鞘翅の第6間室の後半部分が顕著に広くなることと、雌の鞘翅の第6間室の後半部分が第4間室とほぼ同じ幅であることによって区別できる。*S. thailandicus* sp. nov. は *S. besucheti* と似ているが、前胸背板の左右の中央縦隆起がたがいに離れ、それらが強く隆起していないこと、および雄の頭部前縁の中央部が強く伸び、先端が上を向くことによって区別できる。さらに、*S. similis* を中国から初めて記録した。

References

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